

Zhongtian Ma's Notebook

07/11/16

Work finished:

1. Read the first part of gene circuit example.
2. Read the first part of gene circuit model.

Problem unsolved:

1. Cannot understand the logic function of system deeply, that is, cannot understand the logic circuit based the system is which kind of logic gate.

07/12/16

Work finished:

1. Read the second part of gene circuit model.

Problem unsolved:

1. Cannot understand the chemical master equation deeply, the ideology that use the amount of grain to estimate the probability of system state should be strengthened.

07/13/16

Work finished:

1. Read the third part of gene circuit model.
2. Scan the fourth part of gene circuit model.
3. Read gene transcription circuit example.

Problem unsolved:

1. Realize the chemical master equation via Mathematica.

07/14/16

Work finished:

1. Ribozyme-based insulator parts buffer synthetic circuits from genetic context
2. The first part of appendix.

Problem unsolved:

None.

07/15/16

Work finished:

1. The second part of appendix.
2. The work problem of insulator.

Problem unsolved:

None.

07/16/16

Work finished:

1. The third part of appendix: apparent of Biobricks and the prediction of constructing circuit.

Problem unsolved:

1. The construction of chemical master equation in linear cascading situation, and how to change cascading reaction to nesting reaction and simplify the operation.

NOTEBOOK

07/18/16

Work finished:

1. Clear up 8st model and comprehend parameters.

Problem unsolved:

None.

07/19/16

Work finished:

1. Improve the biosensor in 8st model.
2. A general knowledge of biosensor LasP in 9st model.

Problem unsolved:

None.

07/20/16

Work finished:

1. Biosensor LasP in 9st model.

Problem unsolved:

None.

07/21/16

Work finished:

1. Biosensor — — light.

Problem unsolved:

None.

07/22/16

Work finished:

1. A general knowledge of SYSU-Software_Biosensor_LuxR_3OC6_HSL or LasR-3OC12-HSL.
2. Complete SYSU-Software_Biosensor_light.

Problem unsolved:

1. Realization steps of XOR gate in 11st model.

07/23/16

Work finished:

1. Complete SYSU-Software_Biosensor_LuxR_3OC6_HSL or LasR-3OC12-HSL (11st model).
2. Understand SYSU-Software_Biosensor_ratio_sensor_and_comparator (12st model).

Problem unsolved:

None.

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07/25/16

Work finished:

1. Learn 12st model.
2. Clear up the first part of appendix.

Problem unsolved:

1. Understand the prove of interference between adjacent fragment.

07/26/16

Work finished:

1. Understand the prove of interference between adjacent fragment.
2. Learn modeling via Mathematica.

Problem unsolved:

None.

07/27/16

Work finished:

1. Complete learning of modeling via Mathematica.
2. Reread the third part of appendix about FSP.

Problem unsolved:

None.

07/28/16

Work finished:

1. Understand more deeply the third part of appendix about FSP.
2. Reread the model of SYSU and array already shape up.

Problem unsolved:

1. Systematize and embody the input of array.

07/29/16

Work finished:

1. FSP algorithm construction and improvement.

Problem unsolved:

1. Increase the dimension of initial array.

08/01/16

Work finished:

1. Simulate the change process of state via Matlab.

Problem unsolved:

1. Improve the code in detail.

08/02/16

Work finished:

1. Propensity function should be included in algorithm.
2. Know the graph theory algorithm operation.

NOTEBOOK

Problem unsolved:

1. Improve the algorithm steps.

08/03/16

Work finished:

1. Simulate the scholastic process adding propensity function.
2. Continue to learn graph theory algorithm.

Problem unsolved:

1. Propensity function value for synthetic is always smaller than decomposition and the reaction is always in the direction of decomposition.

08/04/16

Work finished:

1. The code which can calculate all propensity function value of all way to achieve the certain state.

Problem unsolved:

None.